

food and manure and there are 55 acres of tilled land. There is the green crop to get out of the way and 12 acres of wheat to get in and six acres of beans to get in during autumn, winter, and early spring, and of course, manure carriage, and spring work and harvesting, and marketing of all kinds make up a considerable total in a 250 acre farm, and three horses do the whole. The explanation lies in the fact that the land does not need as clay land does, special weather when alone it may be worked, and next, the land is clean. On the farm there is nothing but barley to be seen in the barley field; there are no weeds. Six men and two boys are kept. They are needed for the stock, and they are employed at other times in the corn stubbles and clover stubbles, digging out every bit of comb, every root of thistle, or of dock, every trace of root weed of any kind that can be found. The margin of the fields in particular appeared, dry and cleared.

A visit to Red House Farm would doubtless be an excellent practical lesson for some easy-going farmers, and even the greatly abridged account of it that we give must be very interesting and of great benefit to our readers who feel alive on the subject of agricultural improvement.

Rust in Wheat.

There have this season been many reports of wheat being injured by rust, though the disease has been serious only in some localities. There have been complaints of it in some parts of Canada, but not at all to the same extent as in the United States. Kentucky has suffered more from it than any other State.

Rust is a species of parasitic fungus, and attacks the crop in certain conditions of the atmosphere. The principal cause is the prevalence of heavy foggy mists or evening showers, succeeded by calm hot days with a bright sun at the time of the blooming of the wheat plant. Some soils are also more subject to it than others, low damp soils especially.

As long as the rust is confined to the leaves it is comparatively of little consequence. The leaves after some time flag and the rust seems to check a too great luxuriance; but if the spikelets and germs are affected the injury is very serious. The germs no longer receive the required nutriment, and the grain which at first was swollen becomes shrivelled.

There is no thoroughly effectual remedy known for rust. As a means of guarding against it, it has been recommended to sow only the hardier red varieties of wheat which seldom or never suffer from it. It has also been recommended to sow early varieties of wheat that it might be far advanced when the rust would attack it, and that, by this means, less damage would be done. A barrel of salt to the acre sown with wheat in the fall has often had a very good effect in preserving wheat from the rust, from which it might otherwise suffer.

The main preventions of rust in wheat however are really good farming, underdraining, a thorough pulverizing of the soil, and a liberal application of lime, with salt added. This treatment serves to make the wheat hardier and healthier, and the straw stiffer and stronger. And, after all, even the best treatment may not at all times insure immunity from the disease.

A rotation of crops is however greatly in our favour, for though rust occurs on other cereals it is less common on them than on wheat. An uninterrupted succession of wheat crops is very apt to propagate the disease in succeeding years, as so many of the spores or seeds fall to the ground that the succeeding crop would be infected if the season were favorable to the growth of the fungus.

The reports of wheat fields affected by rust are almost invariably from land lying low, and abundant in nitrogen rather than in mineral manures. A dry limestone soil is considered a pretty good guarantee against the disease.

We do not recommend early sowing. Late sowing will be necessary as long as we have any cause to dread the Hessian fly.

Seed Potatoes.

The cultivation of potatoes has of late years become a precarious branch of agriculture. We need not say that the stalk and tuber have been attacked by diseases before unknown, and that insects, some of them unknown to us until lately, as the potato beetle, and some not new, but in greatly increased numbers, as the grey grub, are the cause of great losses in potato raising. We are comparatively safe from the potato disease that British farmers, to their cost, are too familiar with. Though not unknown in Canada its visits fortunately are few and far between. We have had but one very bad visitation of the dreaded scourge for many years. Our dry climate is the most effectual remedy of the disease.

This season the potato crop has suffered greatly from blight. The growing ceased prematurely. By some this is attributed to the extreme heat that raged for some time. This may have had some effect, but we fear there has been a predisposing cause in the impaired constitution of the potato that renders it less able to resist extreme heat or any other unfavorable circumstance. The effects of the attack from potato bugs, when they were allowed to run riot on the plants has been very injurious. The leaves, through which the potato plant receives so much healthful nutriment have been, in not a few instances, eaten entirely, and the growth of the plant has been checked, and has ceased before the plant had come to full maturity. The quality of the potatoes was consequently inferior as an article of food to what it would otherwise have been. It was also injured no little for seed. Some farmers complain of a failure in many instances to germinate, and even in those that did germinate, the growth was in many instances very feeble.

In order to prevent as far as is in our power this increasing degeneracy of the potato, we should select for seed such tubers only as are thoroughly matured. Any others are of impaired powers of propagation, and the crop grown from them must be inferior in every respect to crops grown from strong, healthy tubers. *Like begets like.* Of this there can be no doubt. It is applicable alike to animals and plants, and it is a general rule that disease or feebleness, whether inherited or otherwise acquired, is too often a predisposing cause of disease in the offspring.

"What are the best crops for soiling?" "What number of cows can be fed on a farm of 100 acres of good sandy loam?"

To these questions of "a young farmer" we reply as briefly as we can without being liable to be misunderstood by those who have had little experience in soiling. The forage crops principally used for soiling are vetches, rye, orchard grass, millet, peas with oats or barley, and corn. The first in the rotation for soiling is, in this country, rye sown in Autumn, after the grain crops are gathered in, it will be fit for soiling from the 12th of May till it has blossomed. It bears the winter well and gives a heavy produce of forage if the land be in fair condition. Any remaining uncut after blossoming may be saved for hay or allowed to ripen for seed. It should be fed rather sparingly at first, and always when very succulent and green, it is best to add a little hay. It is especially valuable

as a soiling crop, being the earliest forage crop we can grow in this climate.

Oats sown early will succeed the rye for soiling. It is a very nutritious fodder, good for milch cows, horses, and swine. It yields a large amount of forage on land that is in good condition. If sown mixed with peas the food is of better quality, more nutritious and healthful, and the quantity of forage will be greater.

Orchard grass will be in season, at least, as early as it will be needed. No grass yields heavier crops, and it gives many cuttings through the season. This and red clover will supply all the feed that will be needed for some time.

Corn is sown by many broadcast, but we prefer it sown in drills, as the free access for air and the influence of the sun is a great improvement to its quality. It yields a great bulk of feed, and when well saved is good winter fodder.

These forage crops will give an abundant supply throughout the summer and fall. So great a variety is not really necessary for soiling, but a variety of food is always desirable, and any remaining from a soiling crop may be saved as hay. Millet or Hungarian grass is also a good grass for soiling and hay, and produces a heavy crop. It should be cut before the seeds are matured, as it is said that the seed when ripe is detrimental to stock.

A much greater stock may be supported by the same farm by soiling than pasture. One acre of average land is sufficient for keeping a cow for the whole year. This we know from experience. A correspondent of the *N. Y. Tribune* writes that he commenced soiling thirty-five cows in 1875, and now has increased the number to sixty, and during the past year has raised enough fodder, hay, corn and oats to keep them the entire year, from the farm which contains but eighty-four acres. Six horses have also been kept on the farm from the same home grown grain and fodder.

Home Markets vs. American Tariffs.

The *American Cultivator*, (Boston) says: "A Clarenceville man thought he could sell his potatoes to a better advantage in Vermont than on his side of the line; so he took a load to Alburgh, and sold 100 bushels for \$25. When he got home, after paying United States duties, and charges, he had \$8 out of his \$25, or 8 cents per bushel, just about enough to pay for the cartage. American produce is admitted into Canada free, but Canadians have to pay a duty of about 66 per cent. on all they send to the States."

WHEAT CROP OF THE UNITED STATES. — The *Prairie Farmer* says: "The damage done to spring wheat in some States is considerable, no doubt, and those residing in sections where the crops are injured are naturally inclined to take a rather gloomy view of the future, but it should be remembered that the United States average of wheat is very much larger than a year ago, and there is almost a certainty that the yield of almost all kinds of cereals will be of a superior quality as well as much greater in quantity than in most previous years."

PRESERVING FOOD. — Perhaps no plan that has yet been adopted is as economical or efficient as drying food. An immense business in this line is yet to be developed in our country. We can raise any amount of some kinds of fruit cheaper than it can be grown in old and densely populated countries. The drying of potatoes is a new, and must be a valuable mode for our exporters. The great want has been the lack of efficient dryers, which we are pleased to find is now to be overcome. By applying to the advertisers whose names will be found in this paper, further particulars may be obtained by those interested in supplying the world with our products.